FORAGE SUITABILITY GROUP
NOT SUITED

FSG No.: G063AY000SD

Major Land Resource Area: 63A - Northern Rolling Pierre Shale Plains

Physiographic Features
Not Suited soils are found in various landscape positions.

	Minimum	Maximum
Elevation (feet):	1300	2950
Slope (percent):	0	60
Flooding:		
Frequency:	None	Frequent
Duration:	None	Long
Ponding:		
Depth (inches):	0	24
Frequency:	None	Frequent
Duration:	None	Very Long
Runoff Class:	Negligible	Very high

Climatic Features
This group occurs in a mid-continental climate characterized by wide seasonal temperature and precipitation fluctuations and extremes.

Annual precipitation varies widely from year to year in MLRA 63A. Average annual precipitation for all climate stations listed below is about 17 inches. About 77 percent of that occurs during the months of April through September. On average, there are about 25 days with greater than .1 inches of precipitation during that same time period.

Average annual snowfall ranges from 24 inches at Midland to 48 inches at Milesville. Snow cover at depths greater than 1 inch range from 27 days at Midland to 82 days at Timber Lake.

Average July temperatures across the MLRA are about 75^0F and average January temperatures are about 17^0F. Recorded temperature extremes in the MLRA during the years 1961 to 1990 are a low of -37 at Kennebec and a high of 114 at both Kennebec and Midland. The MLRA lies in USDA Plant Hardiness Zones 4a, 4b and 5a.

The climate data listed in the tables below represent high and low ranges and averages for the climate stations and dates listed. For additional climate data, access the National Water and Climate Center at http://www.wcc.nrcs.usda.gov.

	From	To
Freeze-free period (28 deg)(days):	129	162
(9 years in 10 at least)		
Last Killing Freeze in Spring (28 deg):	May 20	May 04
(1 year in 10 later than)		
Last Frost in Spring (32 deg):	May 31	May 16
(1 year in 10 later than)		
First Frost in Fall (32 deg):	Sep 09	Sep 24
(1 year in 10 earlier than)		
First Killing Freeze in Fall (28 deg):	Sep 17	Oct 01
(1 year in 10 earlier than)		
Length of Growing Season (32 deg)(days):	110	139
(9 years in 10 at least)		
Growing Degree Days (40 deg):	4442	5149
Growing Degree Days (50 deg):	2517	3083
Annual Minimum Temperature:	-30	-15
Mean annual precipitation (inches):	16	18

Monthly precipitation (inches) and temperature (F):

2 years in 10:	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Precip. Less Than	0.10	0.09	0.31	0.82	1.44	1.55	0.90	0.64	0.41	0.30	0.08	0.16
Precip. More Than	0.60	0.79	2.37	3.46	3.82	4.55	3.58	2.46	1.98	2.06	1.07	0.91
Monthly Average:	0.30	0.42	1.20	1.99	2.86	3.06	2.23	1.80	1.31	1.12	0.48	0.45
Temp. Min.	3.9	9.7	20.0	32.9	44.0	53.9	59.6	57.3	46.4	35.5	20.8	7.9
Temp. Max.	32.8	38.6	48.3	63.1	74.1	83.8	92.2	90.6	79.3	66.4	48.4	35.9
Temp. Avg.	17.1	22.9	33.0	46.7	58.0	68.0	75.0	73.0	61.7	49.6	33.5	20.5

Climate Station	Location	From	To
SD5691	Mobridge SD	1961	1990
SD8307	Timber Lake SD	1961	1990
SD6170	Oahe Dam SD	1961	1990
SD5506	Midland SD	1961	1990
SD5544	Milesville SD	1961	1990
SD6552	Philip SD	1961	1990
SD5891	Murdo SD	1961	1990
SD4516	Kennebec SD	1961	1990

Soil Interpretations

The soils in this group possess one or more physical or chemical properties that make their economic use for forage production difficult or impossible.

Drainage Class:	Very poorly drained	To	Excessively drained
Permeability Class: (0 - 40 inches)	Very slow	To	Very rapid
Frost Action Class:	Low	To	High

	Minimum	Maximum
Depth:	6	
Surface Fragments >3" (% Cover):	0	
Organic Matter (percent): (surface layer)	0.0	5.0
Electrical Conductivity (mmhos/cm): (0 - 24 inches)	0	32
Sodium Absorption Ratio: (0 - 12 inches)	0	35
Soil Reaction (1:1) Water (pH): (0 - 12 inches)	5.6	9
Available Water Capacity (inches): (0 - 60 inches)	0	11
Calcium Carbonate Equivalent (percent): (0 - 12 inches)	0	23

Adapted Species List

Unless the severe chemical and/or physical restrictions of these soils have been corrected no forage species can be expected to be economically produced on them.

Soil Limitations

These soils have severe limitations that make their use for forage production impractical or impossible. They are too steep, shallow, wet, stony, or possess unfavorable chemical properties.

Management Interpretations

If the severe restrictions have been reduced or removed the soils should be managed the same as the group that most closely resembles them without the restrictions. For instance, if a soil has been placed in this group because of stoniness and the stones have been removed, it should be managed under the same group that the non-stony phase is managed under.

Inventory Data References

Agriculture Handbook 296-Land Resource Regions and Major Land Resource Areas
Natural Resources Conservation Service (NRCS) National Water and Climate Center data
USDA Plant Hardiness Zone Maps,
National Soil Survey Information System (NASIS) for soil surveys in South Dakota counties in MLRA 63A
South Dakota NRCS South Dakota Technical Guides
NRCS National Range and Pasture Handbook
Various South Dakota Agricultural Research Service, Cooperative Extension Service, and NRCS research trials for plant adaptation and production.

State Correlation

This site has been correlated with the following states: South Dakota

Forage Suitability Group Approval

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Original Date: 4/5/02
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Approval Date: 4/25/03